Degreasing, BCP and HPR of jacketed SSR1-01

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HINS Meeting

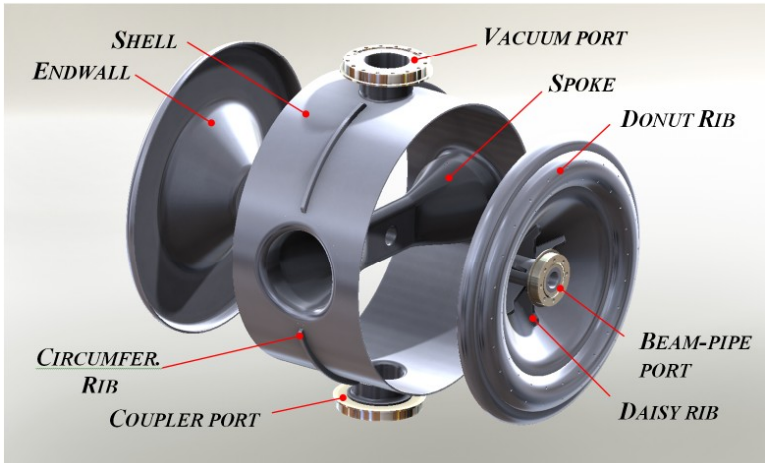
November 19, 2009

Outline

- Degreasing and BCP of jacketed SSR1-01.
- High Pressure Rinse and Sealing.
- Preparing cavity for CW tests in the Test Cryostat.

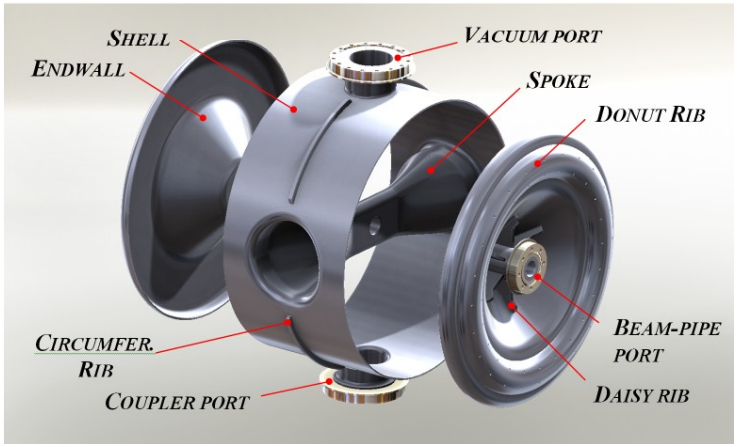
Degreasing and BCP of jacketed SSR1-01

- Ultrasonic degreasing (Micro-90 in DI water) at MP9. Used crane to suspend cavity in the large ultrasonic tank. Cleaned for ½ hour, then rinsed in only DI water for ½ hour. Rinsed cavity and helium vessel with alcohol, dried in cleanroom for 48 hours, shipped to ANL.
- BCP at ~13.5 C for 20 minutes (~15 micron etch). Acid circulated through beampipes and ports. Maximum water pressure in helium vessel ~ 15 psi. After 5 rinses, cavity left filled with DI water overnight before beginning HPR.



High Pressure Rinse and sealing

- High Pressure Rinse in 8 orientations. Over 2 hours of total water time.
- Using the new trunion for the 400 lb jacketed cavity, one can simply rotate the cavity to reach 4 orientations.
- After ~40 hours of drying time in the class 10 area, blank-offs were installed on all four ports. The cavity was then shipped to MP9.
- All of the new hardware was brought back to Fermilab.



Upcoming SSR1-01 work

- The cavity is back at MP9. We did not get an opportunity to properly dry out the helium vessel volume at G150, so they rinsed it with alcohol and purged it with nitrogen over the weekend.
- We next need to assemble all the flanges and fittings for the CW test in the Test Cryostat. This includes the fixed power-in antenna at the power coupler port, the transmitted power antenna at a beam port (re-used from VTS?), and the vacuum connections at the vacuum port. We need to discuss issues with the clean room mount.
- After the antennas are installed in the cleanroom, we want to measure the cavity tune before evacuation (last measured after welding helium vessel). They do not want to bring the Network Analyzer into the cleanroom, so Timergali suggests adding a patch panel in the cleanroom wall for the Network Analyzer cables.

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